

Serial No.: 10/051,475  
Group Art Unit: 2142  
Examiner: Hieu C. Le

In the Claims

1. (Currently Amended) A method for facilitating multicasting of a file to a plurality of end users, comprising:
  - multicasting control service information for reception by a plurality of end user download devices;
  - receiving a plurality of requests for reception of offered content designated in said control service information, wherein said requests are received from a group of said end user download devices; wherein said requests are received within a prescribed interval of time;
  - facilitating synchronization of the group of said end user download devices for enabling reception of said requests by the multicast-capable distribution network within the prescribed interval of time; and
  - multicasting said offered content for reception by each one of said end user download devices in the group;
  - wherein a multicast-capable distribution network facilitates multicasting of said control service information, facilitates receiving said requests for reception and facilitates multicasting said offered content .
2. (Original) The method of claim 1 wherein multicasting control service information includes:
  - receiving said control service information initially transmitted from a centralized control apparatus;
  - generating replicated versions of said control service information, wherein said replicated versions are generated by the multicast-capable distribution network; and
  - forwarding said replicated versions of said control service information for reception by each one of the group of said end user download devices.
3. (Original) The method of claim 2 wherein receiving said control service information from the centralized control apparatus includes receiving an unsolicited advertisement of said control service information from the centralized control apparatus.

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4. (Original) The method of claim 2, further comprising:

configuring the multicast-capable distribution network to route said control service information by downstream apparatuses within the multi-cast capable network in response to receiving said control service information.

5. (Original) The method of claim 4 wherein configuring the multicast-capable distribution network includes being statically configured for routing said control service information along pre-defined paths within the multi-cast capable distribution network.

6. (Original) The method of claim 4 wherein configuring the multicast-capable distribution network includes being configured for dynamically enabling access to said control service information by downstream apparatuses within the multi-cast capable network.

7. (Canceled).

8. (Currently Amended) The method of claim 1 [7] wherein the prescribed interval of time begins at a designated time and extends for a designated duration.

9. (Canceled).

10. (Currently Amended) The method of claim 1 [9] wherein facilitating synchronization of the group of said end user download devices includes

synchronizing a clock of each one of said end user download devices with a reference time maintained by the multicast-capable distribution network; and  
synchronizing a clock of a multicast server apparatus with the reference time maintained by the multicast-capable distribution network.

11. (Original) The method of claim 1, further comprising:

facilitating synchronization of the group of said end user download devices for enabling reception of said requests by the multicast-capable distribution network within a prescribed interval of time.

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12. (Original) The method of claim 11 wherein:

receiving the plurality of requests for reception of a file designated in said control service information includes receiving said requests within the prescribed interval of time; and  
the prescribed interval of time beginning at a designated time and extending for a designated duration.

13. (Original) The method of claim 1 wherein:

the multicast-capable distribution network is an Internet Protocol (IP) based distribution network; and  
receiving the plurality of requests for reception includes receiving an Internet Group Management Protocol IGMP membership report from each one of the group of said end user download devices.

14. (Original) The method of claim 13, further comprising:

receiving said control service information from a centralized control apparatus in response to receiving the IGMP membership report from each one of the group of said end user download devices.

15. (Original) The method of claim 1 wherein multicasting said offered content includes:

receiving an initially transmitted copy of said offered content from a centralized control apparatus;  
generating replicated versions of said offered content, wherein said replicated versions are generated by the multicast-capable distribution network; and  
forwarding said replicated versions of said offered content for reception by each one of the group of said end user download devices.

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16. (Original) A method for facilitating multicasting of a file to a plurality of end users, comprising:
- multicasting control service information for reception by a plurality of end user download devices, wherein multicasting said control service information includes receiving said control service information initially transmitted from a centralized control apparatus, generating replicated versions of said control service information by a multicast-capable distribution network and forwarding said replicated versions of said control service information for reception by each one of the group of said end user download devices;
- configuring the multicast-capable distribution network to route said control service information by downstream apparatuses within the multi-cast capable network in response to receiving said control service information;
- receiving a plurality of requests for reception of offered content designated in said control service information, wherein said requests are received from a group of said end user download devices, wherein said requests are received within a prescribed interval of time; and
- multicasting said offered content for reception by each one of said end user download devices in the group;
- wherein a multicast-capable distribution network facilitates multicasting of said control service information, facilitates receiving said requests for reception and facilitates multicasting said offered content.
17. (Original) The method of claim 16 wherein receiving said control service information from the centralized control apparatus includes receiving an unsolicited advertisement of said control service information from the centralized control apparatus.
18. (Original) The method of claim 16 wherein configuring the multicast-capable distribution network includes being statically configured for routing said control service information along pre-defined paths within the multi-cast capable distribution network.

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19. (Original) The method of claim 16 wherein configuring the multicast-capable distribution network includes being configured for dynamically enabling access to said control service information by downstream apparatuses within the multi-cast capable network.
20. (Original) The method of claim 16 wherein the prescribed interval of time begins at a designated time and extends for a designated duration.
21. (Original) The method of claim 20 wherein receiving the plurality of requests for reception of a file designated in said control service information includes facilitating synchronization of the group of said end user download devices for enabling reception of said requests by the multicast-capable distribution network within the prescribed interval of time.
22. (Original) The method of claim 21 wherein facilitating synchronization of the group of said end user download devices includes:
  - synchronizing a clock of each one of said end user download devices with a reference time maintained by the multicast-capable distribution network; and
  - synchronizing a clock of a multicast server apparatus with the reference time maintained by the multicast-capable distribution network.
23. (Original) The method of claim 16, further comprising:
  - facilitating synchronization of the group of said end user download devices for enabling reception of said requests by the multicast-capable distribution network within a prescribed interval of time.
24. (Original) The method of claim 23 wherein:
  - receiving the plurality of requests for reception of a file designated in said control service information includes receiving said requests within the prescribed interval of time; and
  - the prescribed interval of time beginning at a designated time and extending for a designated duration.

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25. (Original) The method of claim 16 wherein multicasting said offered content includes:  
receiving an initially transmitted copy of said offered content from a centralized control apparatus;  
generating replicated versions of said offered content, wherein said replicated versions are generated by the multicast-capable distribution network; and  
forwarding said replicated versions of said offered content for reception by each one of the group of said end user download devices.

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26. (Currently Amended) A system for facilitating multicasting of a file to a plurality of end users, comprising:

a multicast-capable distribution network;  
a centralized server coupled to the multicast-capable distribution network;  
a plurality of end user download devices coupled to the multicast-capable distribution network; and  
a data processor program;  
the data processor program being capable of enabling the multicast-capable distribution network to facilitate:

multicasting control service information for reception by the plurality of end user download devices;  
receiving a plurality of requests for reception of offered content designated in said control service information, wherein said requests are received from a group of said end user download devices; [and]  
receiving said control service information initially transmitted from a centralized control apparatus;  
generating replicated versions of said control service information, wherein said replicated versions are generated by the multicast-capable distribution network;  
multicasting said replicated versions of said control service information for reception by each one of the group of said end user download devices; and  
configuring the multicast-capable distribution network to route said control service information by downstream apparatuses within the multi-cast capable network in response to receiving said control service information  
multicasting said offered content for reception by each one of said end user download devices in the group.

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27. (Canceled).
28. (Currently Amended) The system of claim 26 [27] wherein enabling the multicast-capable distribution network to facilitate receiving said control service information from the centralized control apparatus includes enabling the multicast-capable distribution network to facilitate receiving an unsolicited advertisement of said control service information from the centralized control apparatus.
29. (Canceled) .
30. (Currently Amended) The system of claim 26 [29] wherein the multicast-capable distribution network is statically configured for routing said control service information along pre-defined paths within the multi-cast capable distribution network.
31. (Currently Amended) The system of claim 26 [29] wherein the multicast-capable distribution network is configured for dynamically enabling access to said control service information by downstream apparatuses within the multi-cast capable network.
32. (Original) The system of claim 26 wherein enabling the multicast-capable distribution network to facilitate receiving the plurality of requests for reception of a file designated in said control service information includes enabling the multicast-capable distribution network to facilitate receiving said requests within a prescribed interval of time.
33. (Original) The system of claim 32 wherein the prescribed interval of time begins at a designated time and extends for a designated duration.
34. (Original) The system of claim 32 wherein enabling the multicast-capable distribution network to facilitate receiving the plurality of requests for reception of a file designated in said control service information includes enabling the multicast-capable distribution network to facilitate synchronization of the group of said end user download devices for enabling reception of said requests by the multicast-capable distribution network within the prescribed interval of time.

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35. (Original) The system of claim 34 wherein enabling the multicast-capable distribution network to facilitate synchronization of the group of said end user download devices includes enabling the multicast-capable distribution network to facilitate:

synchronizing a clock of each one of said end user download devices with a reference time maintained by the multicast-capable distribution network; and  
synchronizing a clock of a multicast server apparatus with the reference time maintained by the multicast-capable distribution network.

36. (Original) The system of claim 26 wherein the data processor program is further capable of enabling the distribution network to facilitate:

synchronization of the group of said end user download devices for enabling reception of said requests by the multicast-capable distribution network within a prescribed interval of time.

37. (Original) The system of claim 36 wherein:

enabling the multicast-capable distribution network to facilitate receiving the plurality of requests for reception of a file designated in said control service information includes enabling the multicast-capable distribution network to facilitate receiving said requests within the prescribed interval of time; and  
the prescribed interval of time beginning at a designated time and extending for a designated duration.

38. (Original) The system of claim 26 wherein:

the multicast-capable distribution network is an Internet Protocol (IP) based distribution network; and  
enabling the multicast-capable distribution network to facilitate receiving the plurality of requests for reception includes enabling the multicast-capable distribution network to facilitate receiving an Internet Group Management Protocol IGMP membership report from each one of the group of said end user download devices.

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39. (Original) The system of claim 38 wherein the data processor program is further capable of enabling the multicast-capable distribution network to facilitate:

receiving said control service information from a centralized control apparatus in response to receiving the IGMP membership report from each one of the group of said end user download devices.

40. (Original) The system of claim 26 wherein enabling the multicast-capable distribution network to facilitate multicasting said offered content includes enabling the multicast-capable distribution network to facilitate:

receiving an initially transmitted copy of said offered content from a centralized control apparatus;

generating replicated versions of said offered content, wherein said replicated versions are generated by the multicast-capable distribution network; and

forwarding said replicated versions of said offered content for reception by each one of the group of said end user download devices.

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41. (Currently Amended) A data processor program product for facilitating multicasting of a file to a plurality of end users, comprising:

a data processor program processable by a data processor of a multicast-capable distribution network;

an apparatus from which the data processor program is accessible by the data processor; and

the data processor program being capable of enabling the data processor to facilitate multicasting control service information for reception by a plurality of end user download devices;

receiving a plurality of requests for reception of offered content designated in said control service information, wherein said requests are received from a group of said end user download devices; [and]

receiving said control service information initially transmitted from a centralized control apparatus;

generating replicated versions of said control service information, wherein said replicated versions are generated by the multicast-capable distribution network; and

multicasting said replicated versions of said control service information for reception by each one of the group of said end user download devices; and

configuring the multicast-capable distribution network to route said control service information by downstream apparatuses within the multi-cast capable network in response to receiving said control service information

~~multicasting said offered content for reception by each one of said end user download devices in the group.~~

42. (Canceled).

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43. (Currently Amended) The data processor program product of claim 41 [42] wherein enabling the data processor to facilitate receiving said control service information from the centralized control apparatus includes enabling the data processor to facilitate receiving an unsolicited advertisement of said control service information from the centralized control apparatus.
44. (Cancelled).
45. (Currently Amended) The data processor program product of claim 41 [44] wherein enabling the data processor to facilitate configuring the multicast-capable distribution network includes enabling the data processor to facilitate statically configuring the multicast-capable distribution network for routing said control service information along pre-defined paths within the multi-cast capable distribution network.
46. (Currently Amended) The data processor program product of claim 41 [44] wherein enabling the data processor to facilitate configuring the multicast-capable distribution network includes enabling the data processor to facilitate dynamically enabling the multicast-capable distribution network for accessing said control service information by downstream apparatuses within the multi-cast capable network.
47. (Original) The data processor program product of claim 41 wherein enabling the data processor to facilitate receiving the plurality of requests for reception of a file designated in said control service information includes enabling the data processor to facilitate receiving said requests within a prescribed interval of time.
48. (Original) The data processor program product of claim 47 wherein the prescribed interval of time begins at a designated time and extends for a designated duration.

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49. (Original) The data processor program product of claim 47 wherein enabling the data processor to facilitate receiving the plurality of requests for reception of a file designated in said control service information includes enabling the data processor to facilitate synchronization of the group of said end user download devices for enabling reception of said requests by the multicast-capable distribution network within the prescribed interval of time.

50. (Original) The data processor program product of claim 49 wherein enabling the data processor to facilitate synchronization of the group of said end user download devices includes enabling the data processor to facilitate:

synchronizing a clock of each one of said end user download devices with a reference time maintained by the multicast-capable distribution network; and

synchronizing a clock of a multicast server apparatus with the reference time maintained by the multicast-capable distribution network.

51. (Original) The data processor program product of claim 41 wherein the data processor program is further capable of enabling the distribution network to facilitate:

synchronization of the group of said end user download devices for enabling reception of said requests by the multicast-capable distribution network within a prescribed interval of time.

52. (Original) The data processor program product of claim 51 wherein:

enabling the data processor to facilitate receiving the plurality of requests for reception of a file designated in said control service information includes enabling the data processor to facilitate receiving said requests within the prescribed interval of time; and

the prescribed interval of time beginning at a designated time and extending for a designated duration.

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53. (Original) The data processor program product of claim 41 wherein:

the multicast-capable distribution network is an Internet Protocol (IP) based distribution network; and

enabling the data processor to facilitate receiving the plurality of requests for reception includes enabling the data processor to facilitate receiving an Internet Group Management Protocol IGMP membership report from each one of the group of said end user download devices.

54. (Original) The data processor program product of claim 53 wherein the data processor program is further capable of enabling the data processor to facilitate:

receiving said control service information from a centralized control apparatus in response to receiving the IGMP membership report from each one of the group of said end user download devices.

55. (Original) The data processor program product of claim 41 wherein enabling the data processor to facilitate multicasting said offered content includes enabling the data processor to facilitate:

receiving an initially transmitted copy of said offered content from a centralized control apparatus;

generating replicated versions of said offered content, wherein said replicated versions are generated by the multicast-capable distribution network; and

forwarding said replicated versions of said offered content for reception by each one of the group of said end user download devices.